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- 3) glycol ethers,
- 4) alcohols,
- 5) cycloalkanes,
- 6) esters,
- 7) terpenes,
- 8) ketones,
- 9) toluene and
- 10) N-methyl pyrrolidone.

#### Remarks

This communication is responsive to the outstanding office action issued on May 22, 2001 in connection with the above referenced patent application. Claims 1-11 and 15-30 remain pending along with new claims 31-38.

#### The Office Action

Claims 1,4,8,17,19, 23 and 25 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

Claims 23, 26 and 27 were rejected under 35 U.S.C. §102(e) as being anticipated by Jarema (U.S. Patent No. 6,187,736).

Claims 1-3 and 15-22 were rejected under 35 U.S.C. §102(b) as being anticipated by Sato et al. (U.S. Patent No. 5,753,727).

Claims 1-4, 7-9, 15-23 and 27-29 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sato et al. ('727) in view of Jarema ('736) of Ochiai et al. (U.S. Patent NO. 5,916,713).

Claims 1-3 and 15-22 were rejected under 35 U.S.C. §102(e) as being anticipated by Mori et al. (U.S. Patent NO. 5,252,668).

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**The Rejections Under 35 U.S.C. §112**

Claims 1, 4, 8, 17, 19, 23 and 25 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. In particular, the Examiner indicated the following:

In claims 1, 19, 23 and 25, the word "napthenic" is misspelled.

In claim 23, the word "ntroparaffins" is misspelled.

In claims 4 and 8, improper Markush language was used.

In claims 4 and 17, the term "one resin" is held to be indefinite.

In response thereto, the following changes have been made:

In claims 1, 19, 23 and 25, the word "napthenic" has been changed to --naphthenic--.

In claim 23, the word "ntroparaffins" has been changed to --nitroparaffins--.

The language -selected from the group consisting of-- has been added to claims 4 and 8.

The term "one resin" has been changed to --one component-- in claims 4 and 17.

Applicants submit that the claims are now definite within the meaning of 35 U.S.C. §112, second paragraph. Withdrawal of the rejections under 35 U.S.C. §112, second paragraph is requested.

**The Rejection Under 35 U.S.C. §102(e) over Jarema (U.S. 6,187,736)**

The Examiner has rejected claims 23, 26 and 27 under 35 U.S.C. §102(e) as being anticipated by Jarema as teaching solvent mixtures containing t-butyl acetate.

In response thereto, and without conceding to the appropriateness of the rejection, Applicant submits herewith a Declaration under 37 C.F.R. §1.131 which establishes that the Applicant was in possession of the invention disclosed by Jarema prior to the filing date of Jarema. As such, the Jarema patent no longer qualifies as "prior art" under 35 U.S. C. §102(e).

In particular, the evidence attached to the Declaration under 37 C.F.R. §1.131 ("the Declaration") shows that the Applicant combined zero-VOC solvents, including t-butyl acetate, with the VOC solvents listed as 1-37 to reduce the MIR 20% to 40% while maintaining "excellent" to "very good" cleaning activity on steel coated with mineral oil. Applicant declares that this data was created prior to March 11, 1998, the filing date of provisional application no. 60/077,787, from which Jarema claims priority.

In view of the above, Applicant submits that Jarema no longer qualifies as "prior art" under 35 U.S.C. §102(e) based upon the attached Declaration under 37 C.F.R. §1.131. As such, withdrawal of the rejection is requested.

**The Rejection Under 35 U.S.C. §102(b) Over Sato et al. (U.S. 5,753,727)**

Claims 1-3 and 15-22 were rejected under 35 U.S.C. §102(b) as being anticipated by Sato et al. Specifically, the Examiner identifies the solvent mixtures of Table 1 as anticipating the claims.

Applicants note that the solvents identified in Table 1 of Sato et al. are no longer part of the claimed invention. In particular, the zero VOC solvents are now limited to 1-bromopropane, benzotrifluoride and t-butyl acetate. Claims of the present application which are limited to these particular zero VOC solvents (i.e. claims 4-11, 13 and 14) were not included in the rejection. As such, amended independent claims 1 and 15 are deemed patentable over Sato et al. Withdrawal of the rejection is therefore requested.

### The Rejection Under 35 U.S.C. §103(a)

The Examiner has rejected claims 1-4, 7-9, 15-23 and 27-29 under 35 U.S.C. §103(a) over Sato et al. ('727) in view of Jarema ('736) or Ochiai et al. (U.S. Patent No. 5,916,713). In rejecting the claims over the combination, the Examiner essentially is of the position that the acetates of Sato et al. (ethyl acetate and butyl acetate) would be obvious to replace with t-butyl acetate as taught by Jarema or Ochiai et al.

Initially, Applicants would like to point out that the enclosed Declaration under 37 C.F.R. §1.131 effectively removes Jarema as prior art as described above.

Further, Applicants note that neither of the acetates mentioned in Sato et al., (ethyl or butyl) are zero VOC solvents like t-butyl acetate. As such, there is teaching found **in the art** which would provide a person of ordinary skill in the art with the motivation to substitute the VOC acetate solvents taught by Sato et al. with the zero VOC solvent t-butyl acetate as taught by Ochiai et al.

Moreover, Ochiai et al. fails to distinguish between VOC solvents and zero VOC solvents. For example, n-butyl acetate and sec-butyl acetate mentioned by Ochiai et al. are VOC solvents whereas t-butyl acetate (the only acetate in the present claims) is a zero VOC solvent. As such, Applicants submit that there is simply no teaching found in the prior art itself which would provide a person of ordinary skill in the art with the motivation to substitute a VOC acetate compound (such as ethyl or butyl acetate) with a zero VOC compound (such as t-butyl acetate) especially when the secondary reference being used to teach the zero VOC solvent fails to distinguish between VOC and zero VOC solvents.

Moreover, if the Examiner is relying on an obviousness type rejection, the Examiner must comply with the requirements for establishing obviousness as set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966), which are summarized as follows:

- (A) the relevant teachings of the prior art relied upon, preferably with each reference to the relevant column or page number(s) and line

number(s) where appropriate,

(B) the difference or differences in the claim over the applied reference(s),

(C) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and

(D) an explanation why one of ordinary skill in the art at the invention was made would have been motivated to make the proposed modification.

The Examiner is also pointed to the MPEP at section 706.02(j) which recites the steps of *Graham* and summarizes as follows:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teachings or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not in the applicant's disclosure. *In re Vaech*, 947 F.2d 488, 20 USPQ 2d 1438 (Fed. Cir. 1991).

As mandated by the Federal Circuit, the motivation to combine the teachings of the prior art must be found *in the art*. Here, the Examiner has failed to provide such motivation. As such, the rejection is improper.

In order for an invention to be obvious under 35 U.S.C. §103(a), there

must be some suggestion or motivation to combine the disclosures of two or more prior art references. *In re Jones* 958 F.2d 347, 21 U.S.P.Q.2d 1941 (Fed.Cir. 1992). Further, it has been held that the prior art reference itself must suggest the desirability for the modification to be considered an obvious prior art reference. *In re Fritch*, 922 F.2d 1260, 23 U.S.P.Q.2d 1780 (Fed.Cir. 1992).

Applicants submit that the combined teachings of the art as set forth by the Examiner would not have rendered the present invention *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made. As such, withdrawal of the rejection is respectfully requested.

**The Rejection Under 35 U.S.C. §120(e) Over Mori et al. (U.S. 5,252,668)**

Finally, the Examiner rejected claims 1-3 and 15-22 under 35 U.S.C. §102(e) as being anticipated by Mori et al. (U.S. Patent No. 5,252,668). Specifically, the Examiner points to Table 1 of Mori et al. for the teachings relied upon.

Applicants note that the solvents identified in Table 1 of Mori et al. are no longer part of the claimed invention. In particular, the zero VOC solvents are now limited to 1-bromopropane, benzotrifluoride and t-butyl acetate. Claims of the present application which are limited to these particular zero VOC solvents (i.e. claims 4-11, 13 and 14) were not included in the rejection over Mori et al. As such, amended independent claims 1 and 15 are deemed patentable over Mori et al. Withdrawal of the rejection is therefore requested.

**Objected to Claims**

The Examiner has objected to claims 5, 6, 10, 11, 24 and 30 as being dependent upon a rejected base claims but otherwise would be allowable if placed in independent form.

The Applicant greatly appreciates the Examiners indication of allowable subject matter. However, due to the amendments to the independent claims and remarks regarding the prior art rejections, Applicant believes all claims are now allowable. As such, the claims identified as allowable by the Examiner

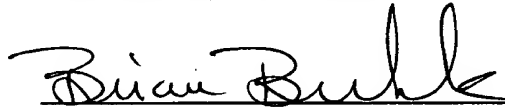
have been left as dependent claims.

**Conclusion**

Based upon the amendments to the claims along with the remarks provided above, Applicant submits that the present application is in condition for allowability. Withdrawal of the rejections and early notification of allowability are earnestly solicited. Should any issues remain, the Examiner is encouraged to contact the undersigned to attempt to resolve any such issues.

Respectfully submitted,

7/3/01  
Date

  
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Enclosure (Declaration Under §1.131)

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**Version of Claims with Markings to Show Changes Made**

1. A solvent-resin composition having reduced atmospheric reactivity, the composition consisting essentially of a resin component and a solvent component, the solvent component being 5% to 95% by total volume of the solvent-resin composition, the solvent component comprising a blend of from about 0.1% to about 99.9% by volume of a zero volatile organic compound (VOC)-solvent selected from the group consisting of:

- 1) 1-bromopropane;
- 2) benzotrifluoride; and
- 3) t-butylacetate;
- [4) methyl acetate;
- 5) parachlorobenzotrifluoride
- 6) acetone;
- 7) 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxybutane;
- 8) 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane;
- 9) 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane;
- 10) technical white oils (mineral oils); and
- 11) n-alkane (C12-C18),]

blended with from about 0.1% to about 99.9% by volume of a reactive VOC solvent selected from the group consisting of:

xylene;  
toluene;  
n-methyl pyrrolidone;  
hexane;  
oxygenated solvents;  
propylene carbonate;  
glycol ethers;  
trichloroethylene;  
[naphthenic] naphthenic solvents;  
iso-paraffins;  
epoxides;  
acetals;



nitroparaffins;  
terpene;  
dimethyl ether;  
esters;  
ketones;  
ethyl acetate;  
alcohols;  
paraffins;  
mineral spirits;  
dibasic esters;  
cycloalkanes; and  
cycloalkene.

4. An adhesive resin-solvent composition comprising:  
40% to 90%, by total volume of the composition, of a solvent  
composition comprising one or more zero VOC solvents selected from the  
group consisting of 1-bromopropane, benzotrifluoride and t-butylacetate, and  
5 a volatile organic compound (VOC) solvent,

5% to 35% of a tackifier, and

- 5% to 40% of a resin, said resin comprising at least one [resin]  
component selected from the group consisting of styrene-butadiene,  
polychloroprene, polyvinyl chloride, acrylic, epoxy, urethane, nitrocellulose, and  
10 styrene.

8. A coating or ink resin-solvent composition comprising:  
10% to 90%, by total volume of the composition, of a solvent  
composition comprising a zero VOC solvent selected from the group consisting  
of t-butylacetate, 1-bromopropane, benzotrifluoride, and a VOC solvent, and  
5 5% to 75% of a polymeric or hydrocarbon resin.

15. An environmentally friendly adhesive, coating or ink solvent-resin  
composition comprising a solvent composition, said solvent composition  
comprising a high reactivity solvent (MIR greater than 1) selected from the

group consisting of 1-bromopropane, benzotrifluoride and t-butyl acetate and a low reactivity solvent (MIR less than 1), said low reactivity solvent being present in an amount effective to reduce the total reactivity of the solvent blend, said solvent composition being present in an amount of from about 10% to about 90% by volume of the solvent-resin, further wherein the solvent resin composition comprises a polymeric or hydrocarbon resin, thereby producing an environmentally friendly adhesive, coating or ink composition.

17. An adhesive resin-solvent composition comprising:  
40% to 90%, by total volume of the composition, of one or more zero VOC solvents selected from the group consisting of:

1-bromopropane;  
benzotrifluoride; and  
t-butylacetate;  
[methyl acetate;  
acetone;  
1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxybutane;  
1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane;  
2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane;  
technical white oils (mineral oils); and  
n-alkane (C12-C18);]

5% to 35% of a hydrocarbon resin as a tackifier, and

5% to 40% of a resin, said resin comprising at least one [resin] component selected from the group consisting of styrene-butadiene, polychloroprene, polyvinyl chloride, acrylic, epoxy, urethane, nitrocellulose, and styrene polymer.

18. A coating or ink resin-solvent composition comprising:  
10% to 90%, by total volume of the composition, of one or more zero VOC solvents selected from the group consisting of:

1-bromopropane;  
benzotrifluoride; and

t-butylacetate;  
[methyl acetate;  
acetone;  
1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxybutane;  
10 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane;  
2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-  
heptafluoropropane;  
technical white oils (mineral oils); and  
n-alkane (C12-C18);]  
15 a VOC solvent; and  
5% to 75% of a polymeric or hydrocarbon resin.

19. A method for reducing the atmospheric reactivity of a solvent-  
resin composition, wherein the solvent-resin composition comprises from about  
5% to about 95%, by total volume of the composition, of a solvent component,  
said solvent component comprising a reactive VOC solvent selected from the  
5 group consisting of:

xylene;  
toluene;  
n-methyl pyrrolidone;  
hexane;  
10 oxygenated solvents;  
propylene carbonate;  
glycol ethers;  
trichloroethylene;  
[naphthenic] naphthenic solvents;  
15 iso-paraffins;  
epoxides;  
acetals;  
nitroparaffins;  
terpene;  
20 dimethyl ether;  
esters;

ketones;  
ethyl acetate;  
alcohols;  
25 paraffins;  
mineral spirits;  
dibasic esters;  
cycloalkanes; and  
cycloalkene,

30 wherein said solvent-resin composition has its atmospheric activity reduced by substituting from about 0.1% to about 99.9% of the reactive VOC solvent with a zero VOC solvent selected from the group consisting of:

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- 1) 1-bromopropane;
  - 2) benzotrifluoride; and
  - 3) t-butylacetate;
  - [4) methyl acetate;
  - 5) parachlorobenzotrifluoride;
  - 6) acetone;
  - 7) 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxybutane;
  - 40 8) 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane;
  - 9) 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane;
  - 10) technical white oils (mineral oils); and
  - 11) n-alkane (C12-C18)].

23. A method for reducing the atmospheric reactivity of a cleaning agent comprising a solvent composition wherein the solvent composition comprises from about 5% to about 95%, by total volume of the composition, of a solvent component, said solvent component comprising a reactive VOC solvent selected from the group consisting of:

- 1) xylene,
- 2) toluene,
- 3) n-methyl pyrrolidone,
- 4) hexane,

- 5) oxygenated solvents,
- 6) propylene carbonate,
- 7) glycol ethers,
- 8) trichloroethylene,
- 9) [naphthenic] naphthenic solvents,
- 10) iso-paraffins,
- 11) epoxides,
- 12) acetals,
- 13) [ntroparaffins] nitroparaffins,
- 14) terpene,
- 15) dimethyl ether,
- 16) esters,
- 17) ketones,
- 18) ethyl acetate,
- 19) alcohols,
- 20) paraffins,
- 21) mineral spirits,
- 22) dibasic esters,
- 23) cycloalkanes and
- 24) cycloalkenes;

further, wherein said cleaning agent composition has its atmospheric reactivity reduced by substituting from about 0.1% to about 99.9% of the reactive VOC solvent with a zero VOC wherein the zero VOC solvent is t-butyl acetate.

25. A method according to claim 23 wherein the VOC solvent is [naphthenic] naphthenic solvents.